



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,481	10/08/1999	ANDREW C. HSU	20864.00700	4880

7590 10/09/2003

Nicole E. Coppes-Gathy
Sierra Patent Group
P.O.Box 6149
Stateline, NV 89449

EXAMINER

ZAMANI, ALI A

ART UNIT	PAPER NUMBER
----------	--------------

2674

18

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/415,481

Applicant(s)

HSU ET AL.

Examiner

Ali A. Zamani

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-45,55 and 60-81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-45,55 and 60-81 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 15.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2674

DETAILED ACTION

1. The indicated allowability of claims 39-45, 55 and 60-63 are withdrawn in view of the newly discovered references. Rejections based on the newly cited reference (Gillespie et al., Clancy et al., Gillespie et al., Fujii et al. and Eichelberger et al.) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 39, 40, 42-45, 55 and 60-63 are rejected under 35 U.S.C. 102(e) as being inherently anticipated by Clancy et al. (US Pat. No. 5, 952,998).

In regard to claims 39, 55 and 60, Clancy discloses a transparent capacitive touch sensing system comprising: a plurality of substantially transparent conductive traces (72 and 74) in one axis disposed on a single substrate forming a sensory array covering a portion of substrate, each substantially transparent conductive trace capacitively senses an input object when proximate to each substantially transparent conductive trace (see Figs 7 and 8), for sensing capacitive coupling between input object and sensory array along one axis; and a sensing device detecting capacitance changes on sensory array (col. 5, lines 5-20). Furthermore, a substantially transparent electrically insulating material separating plurality of X traces from plurality of Y traces (Fig. 7, col. 4, lines 27-35).

Art Unit: 2674

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 39-45, 55 and 60-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerpheide (US Pat. No. 5,861,875) in view of Gillespie et al. (US Pat. No. 6,414,671B1).

In regard to claims 39, 55 60, Gerpheide discloses a transparent capacitive touch sensing system (20) comprised: a plurality of substantially transparent conductive traces in one axis disposed on a single substrate forming a sensory array covering a portion of substrate (see Figs. 3-4 and 10a), each substantially transparent conductive trace capacitively senses an input object when proximate to each substantially transparent conductive trace (Fig. 1, col. 5, lines 18-28), for sensing capacitive coupling between input object and sensory array along one axis (col. 2, lines 45-54). Gerpheide substantially shows the above claimed limitations except for a “sensing device for detecting capacitance changes on sensory array”.

However, Gillespie et al. teach a method for recognizing gestures made by a conductive object on a touch-sensor pads (34) (see the abstract). Gillespie further, teach a two-dimensional capacitive sensing system wherein all row electrodes are sensed simultaneously, and all column electrodes are sensed simultaneously and wherein the location of a finger or other conductive object within a peripheral region of a sensing plane can optionally cause cursor (edge motion) on a display screen allowing control of large cursor excursions from a small sensing plane with a single gesture (col. 5, lines 9-

Art Unit: 2674

16). Furthermore, the sensor technology can best detect any conducting material pressing against it, by adding a compressible insulating layer of conductive material on top of the sensor regardless of its electrical conductivity (col. 52, lines 11-20). Gillespie et al. further teach a position sensor system including touch sensor array (22) and associated position detection circuitry will detect capacitance changes (col. 11, lines 13-20) on array sensory (22) in both self capacitance and trans-capacitance (col. 22, lines 30-39). Thus, it would have been obvious to one of ordinary skill in the art to utilize the methods of Gillespie et al. in the capacitive touch sensing system of Gerpheide to provide an electronic system that is sensitive to the entire area of contact of a finger or other conductive object with a capacitive tablet, and to provide as output the coordinates of some measure of the center of this contact area while remaining insensitive to the characteristic profile of the object being detected.

As to claim 40, Clancy et al. disclose a position detector for determining a position of input object near sensor array (see col. 1, lines 48-59).

As to claim 41, Gillespie et al. disclose a gesture unit (20) that recognizes tapping, pushes, extended drags and variable drags gestures (see Fig. 1).

In regard to claims 42, 43 and 45, Clancy et al. disclose a flexible transparent substrate (col. 1, lines 61-65) sensor array (20) includes sensor bars (105) may be comprised of tin oxide, or other transparent conductors (see col. 8, lines 1-4). Sensory array (20) is atop of display (20) (see Fig. 1). Gillespie et al. teach a substrate (24) may be a printed circuit board, a flexible circuit or any of a number of available circuit interconnect technology structures and the sensor material can be anything that allows creation of a conductive X/Y matrix of pads e.g., conductive elastomer material, silk screened conductive.

Art Unit: 2674

As to claim 44, Gillespie and Clancy did not disclose a bottom of the sensor Y array is electrically shielded using a substantially transparent ground plane but an electrical shield plates are known in the art.

AS to claim 61, Clancy et al. discloses a sensory array comprises a plurality of layers (Fig. 7, col. 7, lines 61-66) is atop a display and also the sensory array is beneath a clear protective covering for a display device (col. 1, lines 66-67).

4. Claims 64-67 and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujii et al. (US Pat. No. 6,411,344 B2).

In regard to claims 64 and 68, Fujii et al. disclose a liquid crystal display having a top polarizer (11); and a transparent touchpad (18) disposed on top polarizer layer, including a plurality of conductors disposed along at least one axis directly on top polarizer layer (Fig. 3, col. 8, lines 35-50). Furthermore plurality of second conductors disposed along a Y-axis and insulated from plurality of first conductors disposed along X axis (Figs 1 and 2, col. 6, lines 26-50).

As to claim 65, Fujii discloses an insulating layer insulates plurality of first conductors disposed along X axis from plurality of second conductors disposed along Y axis (col. 6, lines 46-51).

In regard to claims 66 and 67, Fujii discloses an adhesive layer disposed on one of first and second plurality of conductors and a transparent layer disposed on adhesive layer (col. 6, lines (46-56)).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 69-72 rejected under 35 U.S.C. 102(b) as being anticipated by Jackson (US Pat. No. 4,931,782).

In regard to claims 69-72, Jackson discloses a cathode ray tube (12) having a glass envelope; and a transparent touchpad (12) disposed on glass envelope, including a plurality of first conductors disposed along an X axis directly on glass envelope; and a plurality of second conductors disposed along a Y axis and insulated from plurality of first conductors disposed along X axis (col. 5, lines 40-50). Further an adhesive layer disposed on one of the plurality of conductors (Fig. 6, col. 8, lines 57-67), which all function as claimed.

6. Claims 73-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clancy et al. (US Pat. No. 5,952,998) in view of Fujii et al. (US Pat. No. 6,411,344 B2).

In regard to claims 73 and 74, Clancy et al. disclose a liquid crystal display; and a transparent touchpad (22) disclosed on liquid crystal display, including a plurality of first conductors (74) disposed along an X axis directly on liquid crystal display; and a plurality of second conductors (72) disposed along a Y axis (col. 4, lines 36-42). Clancy et al. Substantially teach the above claimed limitations except for teaching an “adhesive layer disposed on one of first and second plurality of conductors”.

However, Fujii et al. teaches a liquid crystal display device having a transparent input touchpad (8) comprises of transparent conductive substrates (3 and 4) and a transparent

Art Unit: 2674

conductive film (6) and a spacer, an electrode and an insulating film are formed on each of the two transparent conductive substrates (3 and 4). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the insulative material of Fujii et al. In the LCD of Clancy to provide displaying various functions of personal computers and more particularly to the use of a touchpad with a visual display for such devices.

In regard to claims 75-76, Fujii et al. disclose two transparent conductive substrates and an adhesive layer disposed on one of first and second plurality of conductors (col. 6, lines 46-56).

7. Claim 77 is rejected under 35 U.S.C. 102(b) as being anticipated by Eichelberger et al. (US Pat. No. 4,290,052).

In regard to claim 77, Eichelberger et al disclose a fingerprint sensor having a surface layer; and a transparent touchpad disposed on surface layer, including a plurality of conductors disposed along at least one axis directly on top layer (Fig. 2, col. 4, lines 56-65).

8. Claim 78 is rejected under 35 U.S.C. 102(e) as being anticipated by Combs et al. (US Pat. No. 5, 909,211).

As to claim 78, Combs et al. disclose a graphic underlay; and a transparent touchpad (12) disposed on the graphic underlay, including a plurality of conductors (Fig. 5) disposed along at least one axis directly on graphic underlay (col. 2, lines 1-15).

9. Claims 79-81 are rejected under 35 U.S.C. 102(e) as being inherently anticipated by Clancy et al. (US Pat. No. 5,952,998).

In regard to claims 79-81, Clancy et al. disclose an active area configured to accept input from a conductive object, active area including a plurality of substantially transparent conductive traces (72 and 74) disposed in an X axis and a plurality of

Art Unit: 2674

substantially transparent conductive traces disposed in a Y axis (see Fig. 8, col. 5, lines 34-41); wherein the capacitive sensor has a substantially uniform transmissivity within active area (col. 5, lines 5-10).

Claim 44 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Zamani whose telephone number is (703) 308-6414. The examiner can normally be reached on Monday through Friday from 8:00 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ali Zamani

September 22, 2003

A handwritten signature in black ink, appearing to read 'R. Hjerpe', is positioned above the printed name and title.

**RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**